

INFRASTRUCTURE COMMITTEE
Tuesday September 27, 2016 @ 5:15 p.m.
City Hall Council Chambers

Agenda

- 1. Accept: Fairways Subdivision - Fairways**
(Materials Attached)

- 2. Accept: Stillwater Gardens – Molly Lane Extended North**
(Materials Attached)

- 3. Accept: Sussex Pines Subdivision Streets – Cardinal Way & Starling Drive**
(Materials Attached)

- 4. Accept: Sunny Hollow Subdivision Streets – Dana Drive, Doe Drive, & Fawn Court**
(Materials Attached)

- 5. Updates:**
 - **Hammond Street Sewer Project**
 - **Middle & Cross Sewer Project****(Memo Attached)**

- 6. Discussion: Broadway Corridor Study Recommendations for Bangor Gardens Neighborhood**
(Materials Attached)

- 7. Discussion: Long Term Control Plan (LTCP) Presentation**
(Materials Attached)

COUNCIL ACTION

Item No.**Date:** October 12, 2016**Item/Subject:** Order, Accepting Street in Fairways Subdivision - Fairways**Responsible Department:** Engineering

Commentary:

Fairways Subdivision was approved by the Bangor Planning Board on November 5, 2002 and recorded in the Penobscot Registry of Deeds on December 17, 2002, Plan #2002-280. This residential subdivision is located off New York Street. The City Engineer has determined that Fairways has been satisfactorily completed.

The Infrastructure Committee has reviewed and recommended approval on September 27, 2016 to accept. The attached Order is a routine action to formally accept this street as a public way.

John M. Theriault, PE, PTOE
Department Head

Manager's Comments:

City Manager

Associated Information: Order, Associated Maps

Budget Approval:

Finance Director

Legal Approval:

City Solicitor

Introduced for

☒ **Passage**
☐ **First Reading**
☐ **Referral**

Page __ **of** __



Assigned to Councilor

CITY OF BANGOR

(TITLE.) **Order**, Accepting Street in Fairways Subdivision - Fairways

WHEREAS, pursuant to 23 M.R.S.A. §3025, property may be dedicated for highway purposes only upon certain conditions, among which are the "property owner has filed in the Registry of Deeds an approved subdivision plot plan which describes property to be appropriated for public use" and that title to any such property accepted by a municipality shall be fee simple; and

WHEREAS, pursuant to 23 M.R.S.A. §3031 (1), "the public acquires rights of incipient dedication to public use of the ways laid out on the plan" from "the date of recording of a subdivision plan in the Registry of Deeds" and that such public rights expire if the municipality does not accept said way within 20 years from date of recording of the subdivision plan; and

WHEREAS, the subdivision plan entitled Fairways Subdivision, Final Subdivision Plat, prepared by Plisga and Day Land Surveyors and approved by the Planning Board on November 5, 2002 and recorded at the Penobscot Registry of Deeds on December 17, 2002, Plan #2002-280; and

WHEREAS, there exists on the above referenced plan a certain way identified as Fairways to be used by the public to access properties in this subdivision; and

WHEREAS, said public way on the above referenced plan has been inspected by the City Engineer and has been found to meet the City's standards and requirements for such public improvements;

NOW, THEREFORE, BE IT ORDERED BY THE CITY COUNCIL OF THE CITY OF BANGOR THAT, pursuant to 23 M.R.S.A. §3025 and §3031 (1), the way referenced and depicted on the subdivision plan listed as follows is hereby accepted as a Public Ways and Streets by the City of Bangor:

Fairways

BE IT FURTHER ORDERED, THAT the name of the accepted Public Way shall be as listed above and said way be added to the Official City Map, and the City is authorized to accept a deed to Fairways in a form acceptable to the City Solicitor or Assistant City Solicitor.

COUNCIL ACTION

Item No.**Date:** October 12, 2016**Item/Subject:** Order, Accepting Street in Stillwater Gardens - Extension of Molly Lane**Responsible Department:** Engineering

Commentary:

Stillwater Gardens Subdivision, Molly Lane North was approved by the Bangor Planning Board on August 7, 2007 and recorded in the Penobscot Registry of Deeds on December 17, 2002, Plan #2007-131. This residential subdivision is located off Stillwater Avenue and is served by Molly Lane. The City Engineer has determined that the north extension of Molly Lane has been satisfactorily completed.

The Infrastructure Committee has reviewed and recommended approval on September 27, 2016 to accept. The attached Order is a routine action to formally accept this street as a public way.

John M. Theriault, PE, PTOE
Department Head

Manager's Comments:

City Manager

Associated Information: Order, Associated Maps

Budget Approval:

Finance Director

Legal Approval:

City Solicitor

Introduced for

☒ **Passage**
☐ **First Reading**
☐ **Referral**

Page __ of __



Assigned to Councilor

CITY OF BANGOR

(TITLE.) **Order**, Accepting Street in Stillwater Gardens Subdivision – Extension of Molly Lane

WHEREAS, pursuant to 23 M.R.S.A. §3025, property may be dedicated for highway purposes only upon certain conditions, among which are the "property owner has filed in the Registry of Deeds an approved subdivision plot plan which describes property to be appropriated for public use" and that title to any such property accepted by a municipality shall be fee simple; and

WHEREAS, pursuant to 23 M.R.S.A. §3031 (1), "the public acquires rights of incipient dedication to public use of the ways laid out on the plan" from "the date of recording of a subdivision plan in the Registry of Deeds" and that such public rights expire if the municipality does not accept said way within 20 years from date of recording of the subdivision plan; and

WHEREAS, the subdivision plan entitled Stillwater Gardens Molly Lane North Subdivision, Final Subdivision Plat, prepared by CES, Inc. and approved by the Planning Board on August 7, 2007 and recorded at the Penobscot Registry of Deeds on August 13, 2007, Plan #2007-131; and

WHEREAS, there exists a certain way extending northerly from the existing Molly Lane to be used by the public to access properties in this subdivision; and

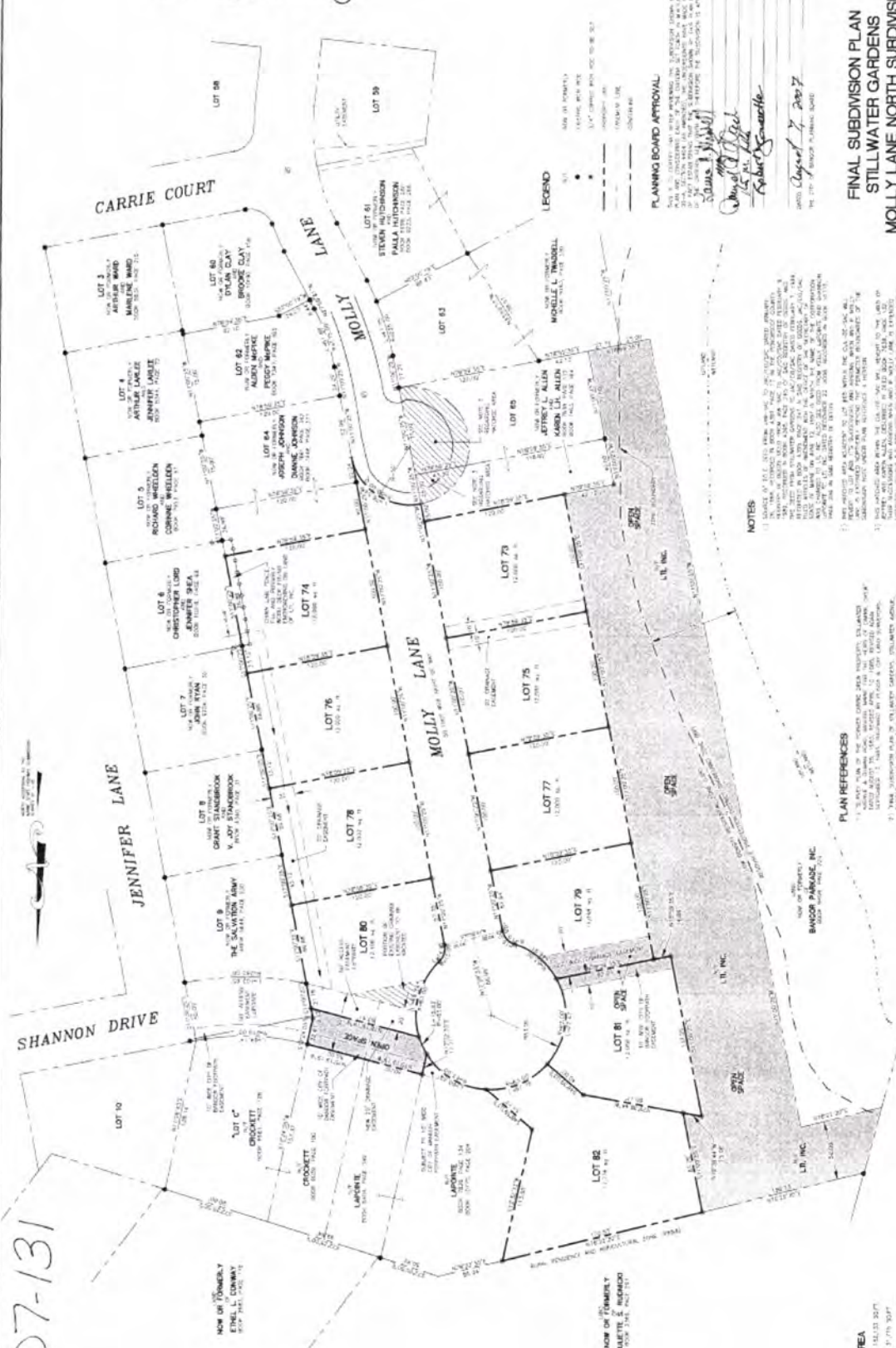
WHEREAS, said public way on the above referenced plan has been inspected by the City Engineer and has been found to meet the City's standards and requirements for such public improvements;

NOW, THEREFORE, BE IT ORDERED BY THE CITY COUNCIL OF THE CITY OF BANGOR THAT, pursuant to 23 M.R.S.A. §3025 and §3031 (1), the way referenced and depicted on the subdivision plan listed as follows is hereby accepted as a Public Ways and Streets by the City of Bangor:

Molly Lane

BE IT FURTHER ORDERED, THAT the name of the accepted Public Way shall be as listed above and said way be added to the Official City Map, and the City is authorized to accept a deed to Molly Lane in a form acceptable to the City Solicitor or Assistant City Solicitor.

2007-131



SUBDIVISION AREA	
1.075	1.52.1
99.3-1-10	5.77
TOTAL AREA	18.1

STATE OF MAINE
FOUNDER: SA
ADDRESS: 1000
RECEIVED: 1000
August 13, 2007
51
Lewist Balfour
RECEIVED: 1000
2007-131

CERTIFICATION

[illegible]

PLAN REFERENCES

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FINAL SUBDIVISION PLAN
STILLWATER GARDENS
MOLLY LANE NORTH SUBDIVISION
BANDOR, REMONSCOT COUNTY, MAINE

RECORD OWNER:
-75, 44C
#4250/74 WWS 52
PPLNGN, ME 04473



COUNCIL ACTION

Item No.**Date:** October 12, 2016**Item/Subject:** **Order,** Accepting Streets in Sussex Pines Subdivision – Cardinal Way and Starling Drive**Responsible Department:** Engineering

Commentary:

Sussex Pines Subdivision was approved by the Bangor Planning Board on August 16, 2005 and recorded in the Penobscot Registry of Deeds on September 22, 2005, Plan #2005-111. This residential subdivision is located off Finson Road and is served by Starling Drive. The City Engineer has determined that Cardinal Way and Starling Drive have been satisfactorily completed.

The Infrastructure Committee has reviewed and recommended approval on September 27, 2016 to accept. The attached Order is a routine action to formally accept these streets as a public way.

John M. Theriault, PE, PTOE
Department Head

Manager's Comments:

City Manager

Associated Information: Order, Associated Maps

Budget Approval:

Finance Director

Legal Approval:

City Solicitor

Introduced for

☒ **Passage**
☐ **First Reading**
☐ **Referral**

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CITY OF BANGOR

(TITLE.) **Order**, Accepting Streets in Sussex Pines Subdivision – Cardinal Way and Starling Drive

WHEREAS, pursuant to 23 M.R.S.A. §3025, property may be dedicated for highway purposes only upon certain conditions, among which are the "property owner has filed in the Registry of Deeds an approved subdivision plot plan which describes property to be appropriated for public use" and that title to any such property accepted by a municipality shall be fee simple; and

WHEREAS, pursuant to 23 M.R.S.A. §3031 (1), "the public acquires rights of incipient dedication to public use of the ways laid out on the plan" from "the date of recording of a subdivision plan in the Registry of Deeds" and that such public rights expire if the municipality does not accept said way within 20 years from date of recording of the subdivision plan; and

WHEREAS, the subdivision plan entitled Sussex Pines Subdivision, Final Subdivision Plat, prepared by Plisga and Day Land Surveyors and approved by the Planning Board on August 16, 2005 and recorded at the Penobscot Registry of Deeds on September 22, 2005, Plan #2005-111; and

WHEREAS, there exists on the above referenced plan certain ways identified as Cardinal Way and Starling Drive to be used by the public to access properties in this subdivision; and

WHEREAS, said public ways on the above referenced plan have been inspected by the City Engineer and have been found to meet the City's standards and requirements for such public improvements;

NOW, THEREFORE, BE IT ORDERED BY THE CITY COUNCIL OF THE CITY OF BANGOR THAT, pursuant to 23 M.R.S.A. §3025 and §3031 (1), the ways referenced and depicted on the subdivision plan listed as follows is hereby accepted as Public Ways and Streets by the City of Bangor:

Cardinal Way
Starling Drive

BE IT FURTHER ORDERED, THAT the name of the accepted Public Ways shall be as listed above and said ways be added to the Official City Map, and the City is authorized to accept a deed to Cardinal Way and Starling Drive in a form acceptable to the City Solicitor or Assistant City Solicitor.

(1) THE CONTOUR AND SPOT ELEVATIONS SHOWN HEREON WERE DERIVED BY PHOTOGRAMMETRIC METHODS BY AERIAL SURVEY & PHOTO, INC. OF NUBROOKWOOD, MAINE. THE MAPPING IS BASED ON PHOTOGRAPHY THAT WAS TAKEN IN MAY OF 2001. THE VERTICAL DATUM USED FOR THIS PROJECT IS THE NATIONAL GEODETIC VERTICAL DATUM OF 1988.

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THIS IS TO CERTIFY THAT AFTER REVIEWING THE SUBDIVISION SHOWN BY THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN 30-A M.R.S. SECTION 440A (AS AMENDED) THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THE SUBDIVISION SHOWN BY THIS PLAN MEETS ALL THE CRITERIA SET FORTH AND THEREFORE THE SUBDIVISION IS APPROVED.

For King
 Laura Mitchell
 the author
 David G. Paul
 David G. Paul

DATED: August 16, 2005
THE CITY OF BANGOR PLANNING BOARD

THIS ANALYSIS DERIVED FROM INFORMATION OBTAINED BY A SURVEY CONFORMING SUBSTANTIALLY TO THE REQUIREMENTS OF TECHNICAL STANDARDS CONTAINED IN CHAPTER 16, PART 3 OF THE RULES OF THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS EFFECTIVE APRIL 1, 2001.

72 MAIN STREET
DANFORTH, MAINE
DATE: AUGUST 4, 2005
PHOTO NO. 00387 TRAIL, CT

STANLEY J. PLYSKA, JR., MAINE LICENSED
PROFESSIONAL LAND SURVEYOR NO. 1030

- IRON ROD SET
- IRON PIPE FOUND
- IRON RODBOLT FOUND
- ⊕ UTILITY POLE
+ GUYANCHOR
- ⊕ HYDRANT
- ⊕ WATER GATE/VALVE
- ⊕ CATCH BASIN
- ⊕ MANHOLE

BANGOR HOUSING DEVELOPMENT CORPORATION PROPERTY
OHIO STREET & FINSON ROAD
BANGOR, MAINE

RECORD OWNER:
BANGOR HOUSING DEVELOPMENT CORPORATION
151 DAVIS ROAD
BANGOR, ME 04401

SCALE: $1'' = 80'$

COUNCIL ACTION

Item No.**Date:** October 12, 2016**Item/Subject:** **Order,** Accepting Streets in Sunny Hollow Subdivision- Dana Drive, Doe Drive,
Fawn Court**Responsible Department:** Engineering

Commentary:

Sunny Hollow Subdivision was approved by the Bangor Planning Board on August 17, 1987 and recorded in the Penobscot Registry of Deeds on September 10, 1987, Plan #D97-87. This residential subdivision is located off Ohio Street and is served by Sunny Hollow Place. The City Engineer has determined that Dana Drive, Doe Drive, and Fawn Court have been satisfactorily completed.

The Infrastructure Committee has reviewed and recommended approval on September 27, 2016 to accept. The attached Order is a routine action to formally accept these streets as a public way.

John M. Theriault, PE, PTOE
Department Head

Manager's Comments:

City Manager

Associated Information: Order, Associated Maps

Budget Approval:

Finance Director

Legal Approval:

City Solicitor

Introduced for

☒ **Passage**
☐ **First Reading**
☐ **Referral**

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Assigned to Councilor

CITY OF BANGOR

(TITLE.) **Order**, Accepting Streets in Sunny Hollow Subdivision – Dana Drive, Doe Drive, Fawn Court

WHEREAS, pursuant to 23 M.R.S.A. §3025, property may be dedicated for highway purposes only upon certain conditions, among which are the "property owner has filed in the Registry of Deeds an approved subdivision plot plan which describes property to be appropriated for public use" and that title to any such property accepted by a municipality shall be fee simple; and

WHEREAS, pursuant to 23 M.R.S.A. §3031 (1), "the public acquires rights of incipient dedication to public use of the ways laid out on the plan" from "the date of recording of a subdivision plan in the Registry of Deeds" and that such public rights expire if the municipality does not accept said way within 20 years from date of recording of the subdivision plan; and

WHEREAS, the subdivision plan entitled Sunny Hollow Subdivision, Final Subdivision Plat, prepared by Plisga and Day Land Surveyors and approved by the Planning Board on August 17, 1987 and recorded at the Penobscot Registry of Deeds on September 10, 1987, Plan #D97-87; and

WHEREAS, there exists on the above referenced plan certain ways identified as Dana Drive, Doe Drive, and Fawn Court to be used by the public to access properties in this subdivision; and

WHEREAS, the above referenced ways were retained as a paper streets under Council Order 97-404, dated September 22, 1997; and

WHEREAS, said public ways on the above referenced plan have been inspected by the City Engineer and have been found to meet the City's standards and requirements for such public improvements;

NOW, THEREFORE, BE IT ORDERED BY THE CITY COUNCIL OF THE CITY OF BANGOR THAT, pursuant to 23 M.R.S.A. §3025 and §3031, (1) the ways referenced and depicted on the subdivision plan listed as follows is hereby accepted as Public Ways and Streets by the City of Bangor:

Dana Drive
Doe Drive
Fawn Court

BE IT FURTHER ORDERED, THAT the name of the accepted Public Ways shall be as listed above and said ways be added to the Official City Map, and the City is authorized to accept a deed to Dana Drive, Doe Drive, and Fawn Court in a form acceptable to the City Solicitor or Assistant City Solicitor.

THIS IS TO CERTIFY THAT AFTER REVIEWING THE SUBDIVISION SHOWN BY THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN 30 M.U.S.A. SECTION 4008 (AS AMENDED) THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THE SUBDIVISION SHOWN BY THIS PLAN MEETS ALL THE CRITERIA SET FORTH AND THEREFORE THE SUBDIVISION IS APPROVED.

Barbara Nickerson
Charlotte L. Lillien
Ruth Wilder
Alice Hyatt
Theresa R. B. B.

DATE: August 17, 1987

THE PLANNING BOARD - CITY OF BALBOON

ACCEPTED BY THE CITY COUNCIL OF THE

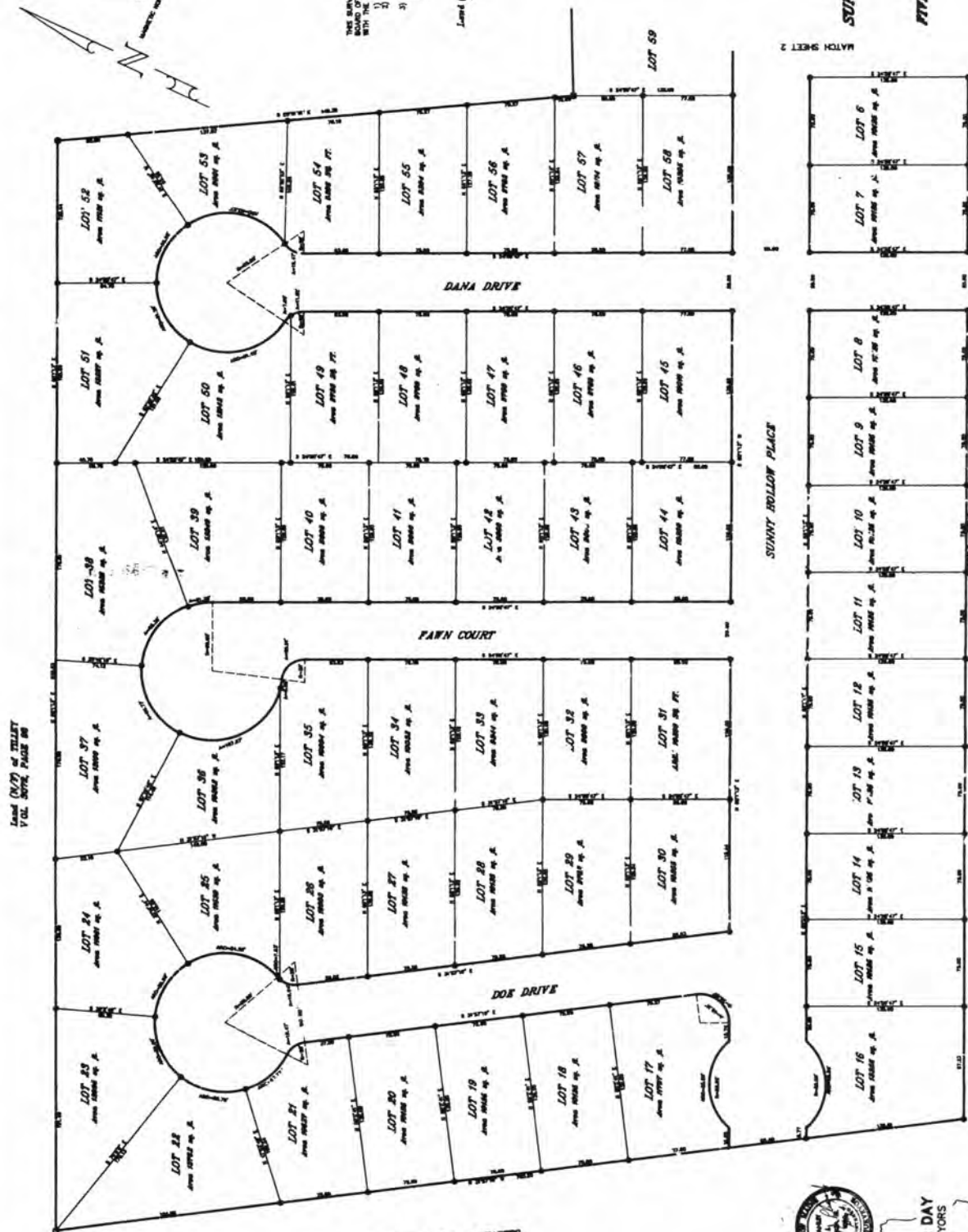
CITY OF BANGOR _____ DAY _____
C _____

THIS SURVEY CONFORMS TO STANDARDS SET FORTH BY THE STATE BOARD OF REGISTRATION FOR LAND SURVEYORS, CATEGORY 1, CONDITION 1, WITH THE FOLLOWING EXCEPTIONS:

- 1) NO WRITTEN REPORT WAS ISSUED WITH THIS SURVEY.
- 2) LEGAL DESCRIPTIONS OF INDIVIDUAL LOTS WERE NOT PREPARED AT THE DATE OF THIS PLAN.
- 3) IRON RODS SHOWN HEREON WILL BE SET PRIOR TO THE COMPLETION OF THE LOT. RODS WILL NOT BE MARKED WITH THE LAND SURVEYOR REGISTRATION NUMBER.

Land (N/T) JAMES i DIANA YOUNG
VOL. 3449 - PG. 104

- IRON ROD SET
- UTILITY POLE
- + QUT/ANCHOR
- HYDRANT
- WATER GATE/VALVE
- TEST PIT/BOXING
- GRANITE/CONCRETE MONUMENT
- WOOD POST
- IRON PIPE PILING
- IRON ROD/ROD FOUND
- CATCH BASIN
- MAN HOLE
- LAMP POST
- SURVEY CONTROL POINT



Land (N/T) of PHILIP SHAPERO
VOL 208R, PAGE 138



PLUSGA & DAY
LAND SURVEYORS

7 MAIN STREET
BOSTON, MASS
DATE: JAN. 21, 1967

SCALE: 1" = 40'

Land (ha) of irrigated area:

SHEET 1 of 2
50-97

To: Infrastructure Committee
From: Engineering Department, John Theriault & Amanda Soucier
Date: September 22, 2016
Re: Upcoming Construction in Downtown

The City of Bangor will put a project out to bid shortly to install new sewer main, water main, and electrical conduit on Hammond Street, at the State Street bridge and extending to Ohio Street. This project also includes an alternate bid item to install communication conduit for future use along the length of the project. Preliminary construction activities will likely begin during the fall of 2016. The majority of the work will be completed during spring and summer of 2017.



The City of Bangor has a project out to bid to install new sewer main and catch basins on Middle Street and Cross Street, beginning on Main Street and extending along the entire length of each road. It is anticipated that the majority of the work will be completed in November of this year, weather permitting. Any remaining work will be completed in the spring of 2017. Abutters were contacted by mail and invited to attend tonight's meeting to discuss the project.



To: Infrastructure Committee
From: Engineering Department, John Theriault
Date: September 22, 2016
Re: Discussion of Broadway Corridor Study recommendations for the Bangor Gardens
Neighborhood

In 2015, the Bangor Area Comprehensive Transportation System (BACTS) had a study completed by T.Y. Lin along Broadway from Center Street to Grandview Avenue. The purpose of this study was to review the existing traffic conditions along the corridor and provide recommendations to address the safety concerns for all users of the corridor while trying to reduce vehicle congestion on one of Bangor's busiest roadways.

One of the long term recommendations within the Broadway Corridor Study is to eliminate the traffic signal at the Falvey Street/Broadway intersection and prohibit left turns from Falvey Street onto Broadway. This limited access to this intersection however, is only recommended if a new connector road between the Bangor Garden's Neighborhood and Husson Avenue can be provided. A desirable location for this connection road is to extend Falvey Street at Thornton Road to Husson Avenue.

Recently, the City of Bangor purchased the property at 169 Thornton Road as it came up for sale to the general public. The purchase of this property is an important step in moving forward with the recommended connector road as discussed in the Broadway Corridor Study.

With the City's purchase of the 169 Thornton Road property, residents of the Bangor Gardens Neighborhood became more curious as to how the recommended improvements within the Corridor Study will impact their neighborhood. John Theriault met with residents of Bangor Gardens during their neighborhood watch meeting on August 25, 2016 to discuss the study and answer questions. Most of the residents were concerned about increased traffic within the neighborhood as well as existing and future travel speeds within the neighborhood.

During the neighborhood meeting, it was discussed that the neighbors should attend an infrastructure meeting to express their concerns to the Bangor City Council.



Figure 7: Intersection Crash Data
 Source: MaineDOT
 2011 - 2013

*34 CRASHES
 IN 3 YEAR
 PERIOD*

Legend:

(X) # Crashes

0.XX Critical Rate Factor (CRF)

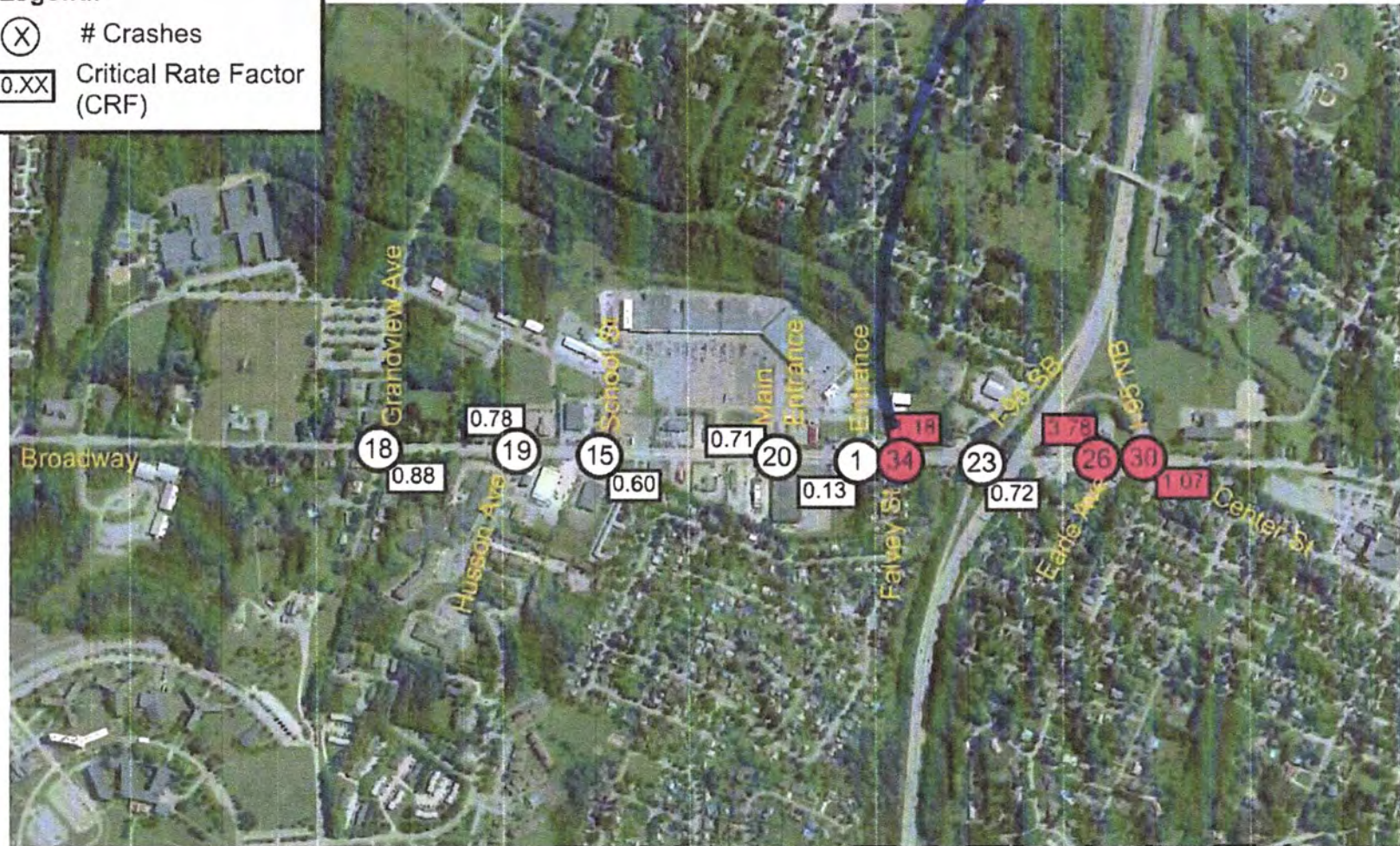
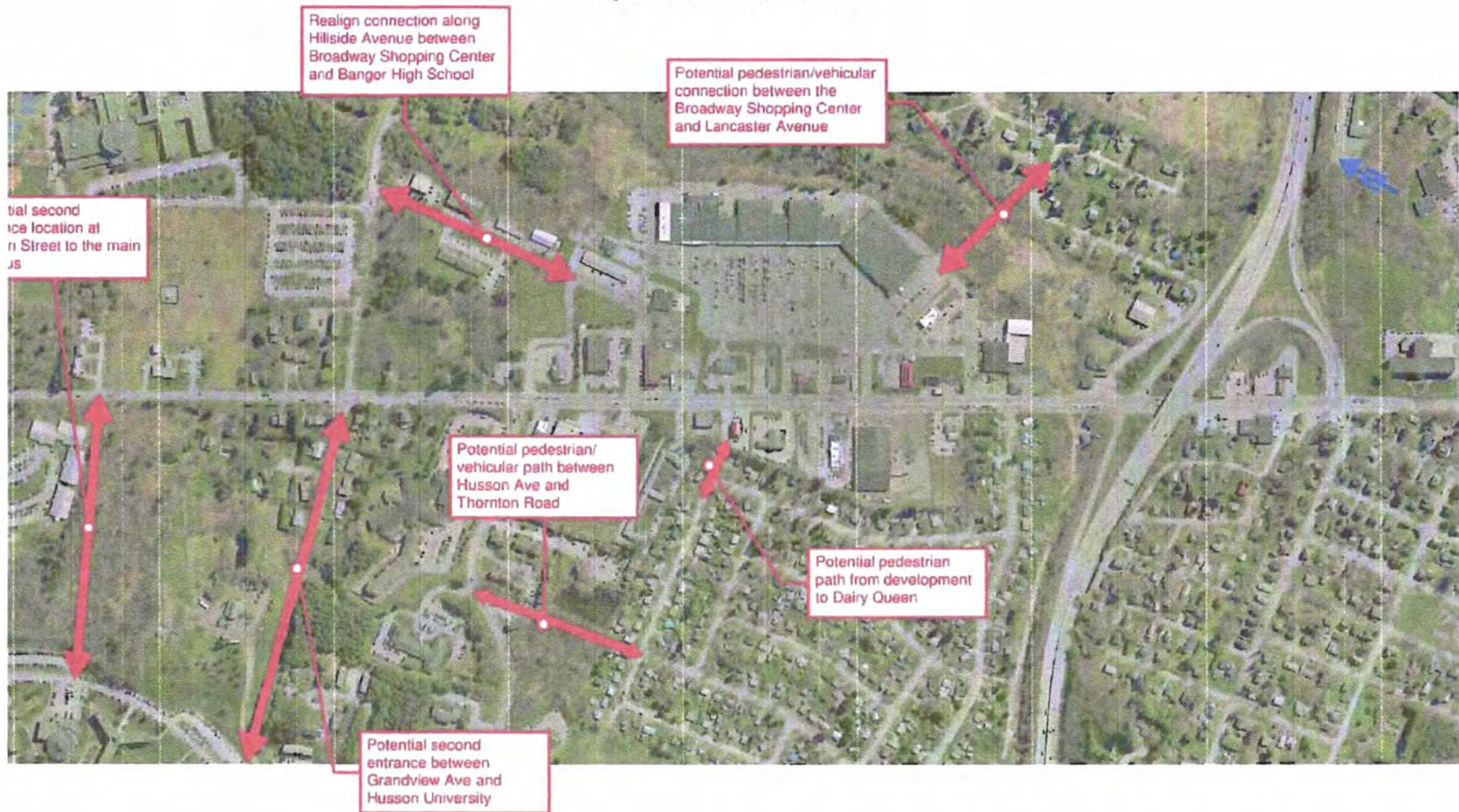


Figure 28: New Connections



To: Infrastructure Committee
From: Engineering Department, John Theriault & Amanda Soucier
Date: September 22, 2016
Re: Update on Phase 2 Combined Sewer Overflow Long Term Control Plan

Over the past year, the City has been working with its consultant, AECOM Technical Services Inc., in development of its Phase 2 Long Term Control Plan for reduction of combined sewer overflows. This plan is a requirement of the City's 2015 Consent Decree with EPA and Maine DEP. Staff will provide an update of the progress made in development of the plan, which must be submitted on January 31, 2017.

2017 Phase 2 LTCP Update

CSO Control Measure Alternatives

Progress Meeting – September 27, 2016

City of Bangor, Maine



Background

- Bangor operates a combined sewer collection system (sewer and stormwater flows)
- During wet weather, excess stormwater flows overwhelm the capacity of the sewer system
- Excess flows exit the sewer system to the Penobscot River or the Kenduskeag Stream through 9 relief points called combined sewer overflow (CSO) outfalls
- Per the Clean Water Act, communities must work to reduce annual CSO activations
- In 2009, the City completed its Phase 1 Long Term Control Plan (LTCP) to reduce CSO activations under its first Consent Decree
- In 2015, the City entered into a new Consent Decree with the Maine DEP and US EPA
- The City must prepare its Phase 2 Long Term Control Plan to continue reducing CSO activations and submit the plan to EPA on January 31, 2017
- Today's presentation is a summary of further refined CSO control options as we continue development of the final Phase 2 LTCP document

CSO Controls to be Evaluated

CSO Outfall	Subsection	Current Control	Storage/ Additional Storage ¹	Sewer Separation ^{2,3}	Treatment ⁴ (RTB or Vortex)	Sewer Replacement/ Rehabilitation	Green Infrastructure (GI)
002	Barkersville	1.4 MG Conduit	Yes	Yes	Yes	Supplement	Supplement
003	Davis Brook	1.2 MG Conduit	Yes	Yes	Yes	Supplement	Supplement
006	Kenduskeag West	--	Yes	Yes	Yes	Supplement	Supplement
007	Kenduskeag East	1.2 MG Tank	Yes	Yes	No	Supplement	Supplement
009	Hammond Street	--	No	Yes	No	Yes	Supplement
011	Meadowbrook	--	No	Yes	No	Yes	Supplement
016	Cemetery	--	No	Yes	No	Yes	Supplement
020	Carr Brook	--	No	Yes	No	Yes	Supplement
023	Central Street	--	No	Yes	No	Yes	Supplement
¹ Tank or conduit.							
² Public inflow only.							
³ As (a) stand-alone control (b) supplement to other control or (c) CSO elimination/100% control.							
⁴ Primary treatment equivalent and seasonal disinfection.							

Evaluation of Alternatives

1. Construction Costs/Future Operation and Maintenance Costs

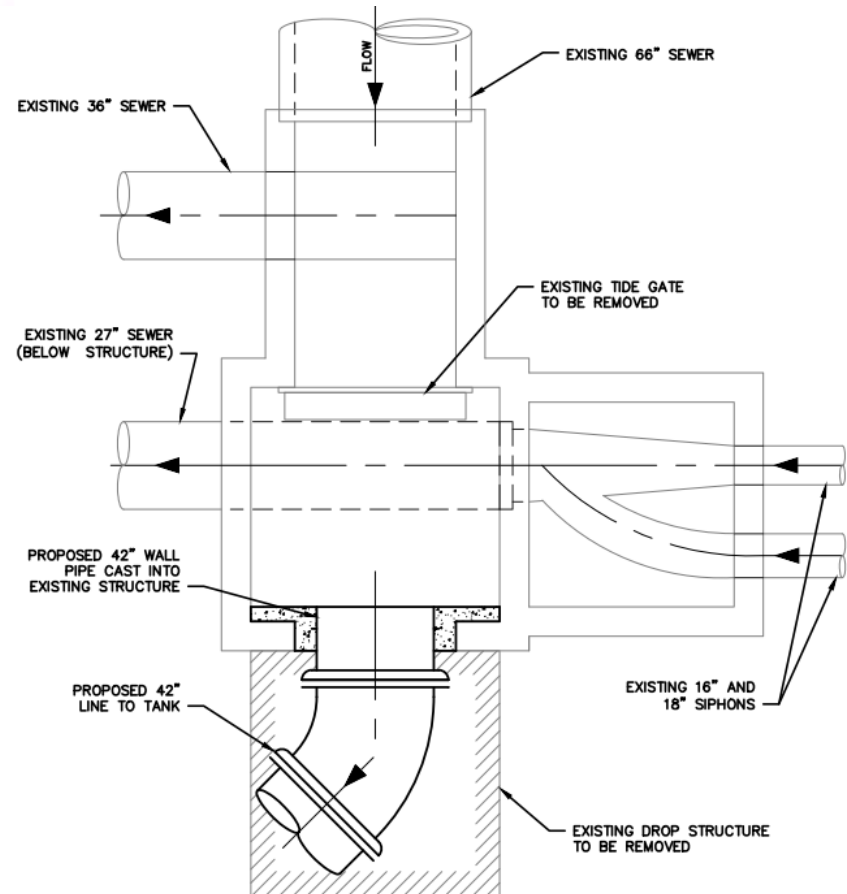
- **“Knee of the Curve”** – cost effectiveness, avoid diminishing returns

2. Non-Monetary Considerations

- **Regulatory Compliance** – 4, 2, 1, or 0 CSO activations per year
- **Water Quality** – pollution loadings to receiving waters
- **Constructability** – unique challenges/obstacles
- **Expandability** – can it be readily expanded to meet future requirements
- **Ease of Operation** – complexity of processes, pre-event preparation and post-event clean-up, present & future permit requirements, can it be operated and maintained with current staffing levels
- **Public/Community Acceptance** – impacts to the immediate and surrounding area and unique or sensitive resources, visual impacts, odors

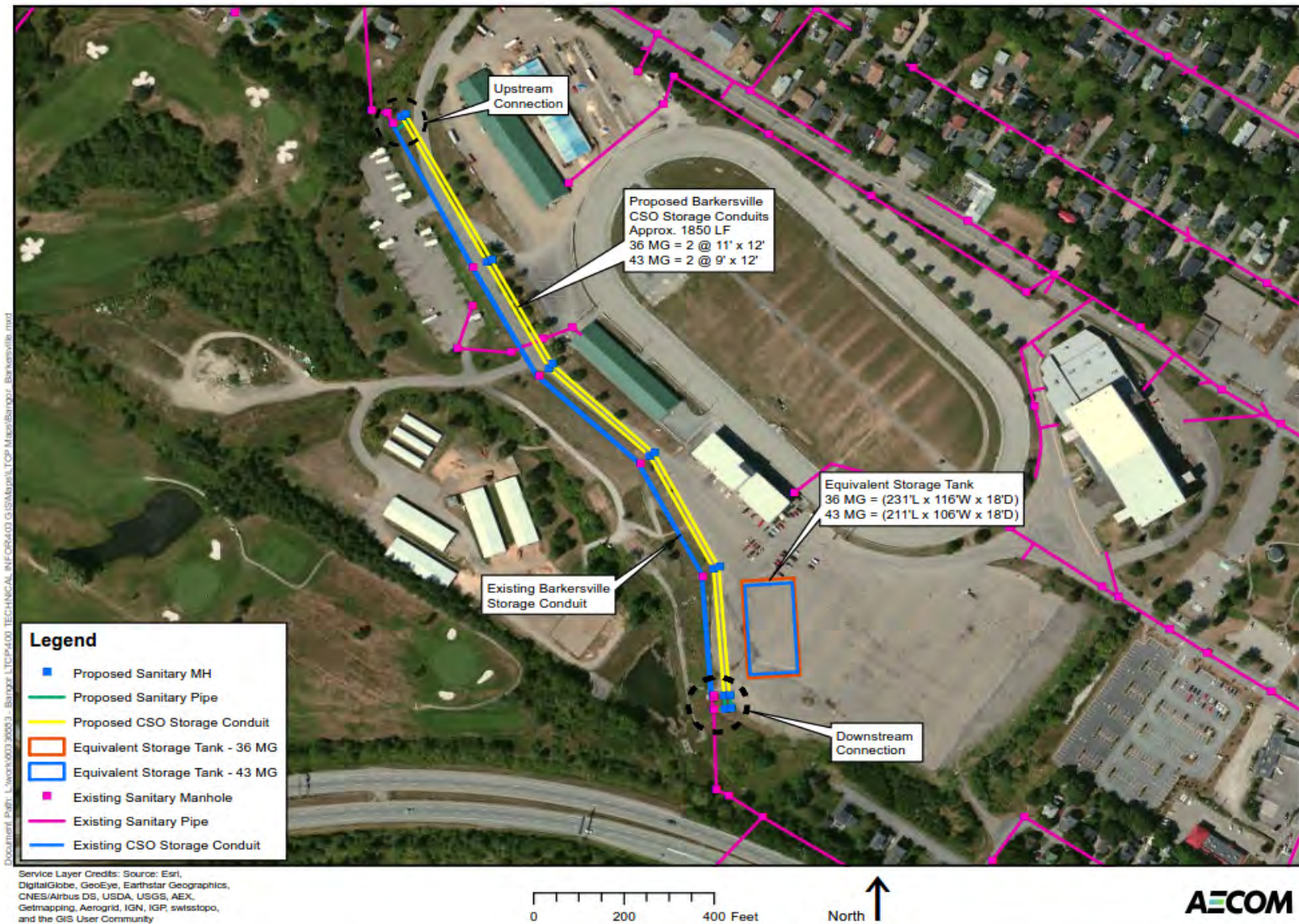


Conceptual Alternatives/Layouts- Kenduskeag West: 1.1 MG Storage Tank

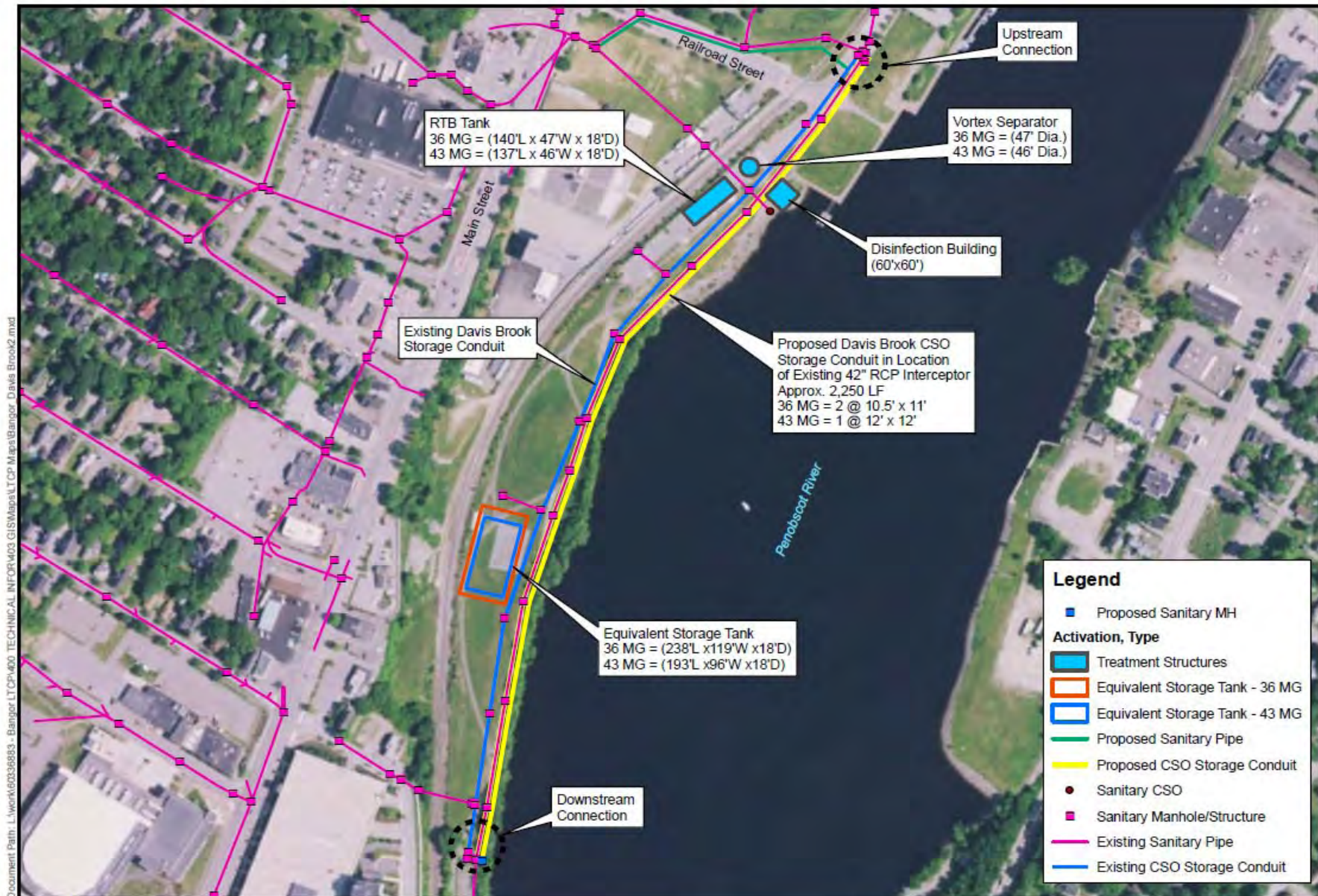


PLAN
CSO 006 REGULATOR STRUCTURE MODIFICATIONS

Conceptual Alternatives/Layouts - Barkersville Storage Conduits and Tanks



Conceptual Alternatives/Layouts – Davis Brook Storage/Treatment



Document Path: L:\work\603238833 - Bangor LTCP\403 TECHNICAL INFO\403 GIS\Mapa\LTCP Mapa\Bangor Davis Brook2.mxd

Service Layer Credits. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 200 400 Feet

North ↑

AECOM

Estimated Systemwide Phase 2 LTCP Costs for Attaining 4 CSO Activations per Typical Year¹

Outfall	Est. Cost (\$M)
Barkersville	\$17.3
Davis Brook	\$27.0
Kenduskeag East and West	\$7.5
Misc. Separation or Other Control Projects	\$5.0 ²
Sewer Rehabilitation/Replacement	\$3.0 ²
WWTP Upgrade to 43 MGD	<u>\$3.0</u> ³
Total	\$62.8

¹ Phase 2 LTCP Projects will be phased over a period of 20+ years

² Allowance

³ Estimate of CSO treatment only; does not include improvements to influent screens, grit handling, etc.

Next Steps in 2017 Phase 2 LTCP Development

- Refine evaluation of alternatives including non-monetary considerations
- Incorporate Condition Assessments for WWTP and sewer collection system
- Develop an affordable phasing plan
- Future meetings/presentations including public outreach
- Final selection of alternatives for the first 5 year period of projects (2017 – 2021)
- Submit Phase 2 LTCP to EPA on January 31, 2017